

CLAIMS

1. Method of hydroentangling polymer fibers to manufacture a nonwoven fabric,  
**characterized in** that the polymer fiber, at the moment of hydroentangling, is  
5 imparted a temperature equal to or exceeding the glass transition temperature  
(T<sub>g</sub>) of the polymer fiber and being less than the melting point of the polymer fi-  
ber.
2. Method according to Claim 1, **characterized in** that the polymer fiber has an  
10 initial modulus  $\geq 50$  cN/tex, at room temperature.
3. Method according to Claim 1, **characterized in** that the polymer fiber has an  
initial modulus  $\geq 100$  cN/tex, at room temperature.
- 15 4. Method according to Claim 3, **characterized in** that the polymer fiber has an  
initial modulus of 100 – 2000 cN/tex, especially 500 – 1500 cN/tex, more par-  
ticularly 200 – 750 cN/tex, and even more particularly 250 – 600 cN/tex, at room  
temperature.
- 20 5. Method according to one of Claims 1 – 4, **characterized in** that the temperature  
is achieved with the aid of hot or superheated water.
6. Method according to one of Claims 1 – 4, **characterized in** that the temperature  
is achieved with the aid of IR-heat.  
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7. Method according to one of Claims 1 – 4, **characterized in** that the temperature  
is achieved with the aid of microwaves.
8. Method according to one of Claims 1 – 7, **characterized in** that the polymer fi-  
30 ber has a glass transition temperature (T<sub>g</sub>) of  $\geq 20^{\circ}\text{C}$ .

9. Method according to one of Claims 1 – 8, **characterized in** that the polymer fiber has a glass transition temperature ( $T_g$ ) of 20 - 100°C, especially 50 - 70°C.

5 10. Method according to one of Claims 1 – 9, **characterized in** that the polymer included in the polymer fibers comprises polyester, polylactic acid, polyamide or polypropylene, or copolymers or mixtures thereof.

( 11. Hydroentangled nonwoven fabric comprising polymer fibers, **characterized in**  
10 that the polymer fibers in the nonwoven fabric have an initial modulus  $\geq 50$   
( cN/tex, at room temperature.

12. Nonwoven fabric according to Claim 10, **characterized in** that the polymer  
fibers in the nonwoven fabric have an initial modulus of 100 – 2000 cN/tex,  
15 especially 500 – 1500 cN/tex, more particularly 200 – 750 cN/tex, and even more  
particularly 250 – 600 cN/tex, at room temperature.

13. Nonwoven fabric according to one of Claims 10 – 11, **characterized in** that the  
polymer fibers in the nonwoven fabric have a glass transition temperature ( $T_g$ ) of  
20  $\geq 20^\circ\text{C}$ .

( 14. Nonwoven fabric according to Claim 12, **characterized in** that the polymer fi-  
bers in the nonwoven fabric have a glass transition temperature ( $T_g$ ) of 20 -  
100°C, especially 50 - 70°C.  
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15. Nonwoven fabric according to one of Claims 10 – 13, **characterized in** that the  
nonwoven fabric has a bulk specific volume of  $\geq 8 \text{ cm}^3/\text{g}$ .

30 16. Nonwoven fabric according to Claim 14, **characterized in** that the nonwoven  
fabric has a bulk specific volume of 8 – 15  $\text{cm}^3/\text{g}$ , especially 10 – 15  $\text{cm}^3/\text{g}$ .

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$\frac{1}{2} \frac{dV}{dt}$

[illegible]